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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,869	03/16/2004	David K. Biegelsen	119098	1573

65575 7590 04/24/2007

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EXAMINER	
KURR, JASON RICHARD	
ART UNIT	**PAPER NUMBER**
2615	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/800,869	BIEGELSEN, DAVID K.	
	Examiner	Art Unit	
	Jason R. Kurr	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 4, 2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris (US 5,889,870) in view of Pompei (US 2001/0007591 A1).

With respect to claim 1, Norris discloses a method for transmitting audio information, comprising: synthesizing a carrier signal (fig.2 #60) and a side band signal (fig.2 #62); encoding the side band signal with the audio information (col.11 ln.8-16); and transmitting the carrier signal and encoded side band signal to a plurality of

transducers (fig.2 #20, col.15 ln.28-42); and transmitting the carrier signal and encoded side band signal from the plurality of transducers (fig.2).

Norris does not disclose expressly wherein the phase relationships are actively adjusted for the purpose of controlling the directivity or focus of a hypersonic beam produced by the signals.

Pompei discloses a method for transmitting audio information wherein phase relationships of a plurality of hypersonic signals are actively adjusting for the purpose of controlling the directivity or focus of a hypersonic beam produced by the signals (pg.4 [0039]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the phase shifting methods of Pompei in the invention of Norris to actively adjust the phase of the carrier signal and the encoded side band signal relative to other carrier and encoded side band signals.

The motivation for doing so would have been to control the direction and focus of the emitted sound beam of Norris. This would allow a user to point the sound beam in a desired direction in applications where the transducers are stationary.

With respect to claim 2, Norris discloses the method of claim 1 in view of Pompei, further comprising: generating a plurality of signals (fig.2 #38,42) based on the encoded side band signal and the carrier signal; adjusting phase relationships of the plurality of signals to form the focused hypersonic beam (Pompei: pg.4 [0039]); and generating hypersonic wavelets (fig.2 #30,32), each of the wavelets generated based on one of the signals.

With respect to claim 3, Norris discloses the method of claim 1, further comprising: selecting one or more carrier signals; encoding one side band signal with unique audio information for each of the carrier signals (col.11 ln.8-16); and transmitting the carrier signals and encoded side band signals in one or more focused hypersonic beams, each of the hypersonic beams aimed at a different direction than other one of the hypersonic beams (fig.2, col.15 ln.28-42).

With respect to claim 4, Norris discloses a computer readable medium or a modulated signal (fig.2 #42) being encoded to perform the method of claim 1 in conjunction with a hypersonic transducer (fig.2 #20).

With respect to claim 19, Norris discloses a hypersonic transducer, comprising: means for synthesizing a carrier signal and a side band signal encoded with audio information (fig.2 #24, col.11 ln.8-16); means for transmitting the carrier signal and the encoded side band signal to a plurality of transducers (fig.2 #22,24, col.15 ln.28-42); and means for transmitting the carrier signal and encoded side band signal from the plurality of transducers (fig.2 #20).

Norris does not disclose expressly means for actively adjusting the phase of the carrier and encoded sideband signals for the purpose of controlling the directivity or focus of a hypersonic beam produced by the signals.

Pompei discloses a transducer (fig.1 #122) for transmitting audio information comprising means (fig.1 #124,120) for actively adjusting phase relationships of a plurality of hypersonic signals are for the purpose of controlling the directivity or focus of a hypersonic beam produced by the signals (pg.4 [0039]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the phase shifting means of Pompei in the invention of Norris to actively adjust the phase of the carrier signal and the encoded side band signal relative to other carrier and encoded side band signals.

The motivation for doing so would have been to control the direction and focus of the emitted sound beam of Norris. This would allow a user to point the sound beam in a desired direction in applications where the transducers are stationary.

Response to Arguments

Applicant's arguments with respect to claims 1 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JK
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